



ALTERNATIVE TO PTO/SB/08A/B
(Based on PTO 03-08 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	10/537,804
<i>(Use as many sheets as necessary)</i>				Filing Date	June 7, 2005
Sheet	1	of	5	First Named Inventor	Robert DWILINSKI
				Art Unit	1792
				Examiner Name	F.C. Hiteshew
				Attorney Docket Number 204552035400	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
1.	5,096,860		03-17-1992	NADKARNI	
2.	5,456,204		10-10-1995	DIMITROV ET AL.	
3.	5,589,153		12-31-1996	GARCES	
4.	5,679,965		10-21-1997	SCHETZINA	
5.	5,780,876		07-14-1998	HATA	
6.	5,868,837		02-09-1999	DISALVO ET AL.	
7.	5,928,421		07-27-1999	YURI ET AL.	
8.	6,031,858		2/2000	HATAKOSHI ET AL.	
9.	6,051,145		04-2000	GRIFFITH ET AL.	
10.	6,046,464		04-04-2000	SCHETZINA	
11.	6,067,310		05-23-2000	HASHIMOTO ET AL.	
12.	6,139,628		10-2000	YURI ET AL.	
13.	6,156,581		12/05/2000	VAUDO ET AL.	
14.	6,172,382		01-09-2001	NAGAHAMA	
15.	6,177,057		01/23/2001	PURDY	
16.	6,249,534		06-2001	ITOH ET AL.	
17.	6,252,261		06-26-2001	USUI	
18.	6,265,322		7/2001	ANSELM ET AL.	
19.	2001/0008656		07/19/2001	TISCHLER ET AL.	
20.	2001/0022154		09/20/2001	CHO ET AL.	
21.	6,303,403		10/2001	SATO ET AL.	
22.	2001/0030328		10/2001	ISHIDA	
23.	6,329,215-B1		12-11-2001	POROWSKI ET AL.	
24.	2002/0014631		02-07-2002	IWATA	
25.	2002/0031153		03-14-2002	NIWA	
26.	6,372,041		04/16/2002	CHO ET AL.	
27.	2002/0047113		04-25-2002	OHNO	
28.	2002/0063258		05-30-2002	MOTOKI	
29.	6,399,500		6-4-2002	POROWSKI ET AL.	
30.	6,399,966		06-04-2002	TSUDA	
31.	2002/0078881		06-27-2002	CUOMO	
32.	6,423,984		07-23-2002	KATO	
33.	6,447,604		9-10-2002	FLYNN ET AL.	
34.	6,459,712		10-1-2002	TANAKA ET AL.	
35.	6,468,882		10-22-2002	MOTOKI	
36.	2002/0189531		12-2002	DWILINSKI ET AL.	
37.	6,488,767		12-3-2002	XU ET AL.	
38.	6,509,651		01-21-2003	MATSUBARA	
39.	6,531,072		3/2003	SUDA ET AL.	
40.	6,534,795		3/2003	HORI ET AL.	
41.	6,586,762		07-01-2003	KOZAKI	
42.	6,593,589		07-15-2003	OSINSKI ET AL.	
43.	2003/0143771		7-31-2003	KIDOGUCHI ET AL.	

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
Sheet	2	of	5	Application Number	10/537,804
				Filing Date	June 7, 2005
				First Named Inventor	Robert DWILINSKI
				Art Unit	1792
				Examiner Name	F.C. Hiteshew
				Attorney Docket Number	204552035400

44.	6,614,824	09-02-2003	TSUDA	
45.	2003/0209191	11/2003	PURDY	
46.	6,677,619	01-13-2004	NAGAHAMA	
47.	6,686,608	2-3-2004	TAKAHIRA	
48.	2004/0031978	2-19-2004	D'EVELYN ET AL.	
49.	6,711,191	03-23-2004	KOZAKI	
50.	6,720,586	04-13-2004	KIDOGUCHI	
51.	2004/0139912	07-22-2004	T. DWILINSKI	
52.	2004/0244680	12-9-2004	DWILINSKI ET AL.	
53.	2004/0255840	12-23-2004	DWILINSKI ET AL.	
54.	6,858,882	02-22-2005	TSUDA	
55.	6,924,512	08-02-2005	TSUDA	
56.	2006/0032428	02-2006	DWILINSKI ET AL.	
57.	7,053,413	5/2006	D'EVELYN ET AL.	
58.	7,057,211	6/2006	DWILINSKI ET AL.	
59.	7,081,162	07-2006	DWILINSKI ET AL.	
60.	7,097,707	8/2006	XU	
61.	7,291,544	11/2007	D'EVELYN ET AL.	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)			
	62.	CN-1036414	10-18-1989	Inst. of Physics, Chinese Academy of Sciences	Translation of abstract
	63.	JP-2-137287	05-25-1990	Sanyo Electric Co., Ltd.	Translation of abstract
	64.	JP-07-022692	03-15-1995	Japan Steel Works, Ltd.	
	65.	JP-7-165498	06-27-1995	Mitsubishi Cable Ind., Ltd.	
	66.	JP-7-249830	09-26-1995	Hitachi Ltd.	Partial English translation
	67.	EP-0 716 457	06-12-1996	Nichia Chemical Industries, Ltd.	
	68.	JP-8-250802	09-27-1996	Fujitsu Ltd.	Translation of abstract
	69.	JP-9-134878	05-20-1997	Matsushita Electron Corp.	Translation of abstract
	70.	JP-9-293897	11-11-1997	Sanyo Electric Co., Ltd.	
	71.	JP-10-70079	03-10-1998	Matsushita Electron Corp.	Translation of abstract
	72.	JP-10-70338	03-10-1998	Sharp Corp.	Translation of abstract
	73.	JP-10-84161	03-31-1998	Sumitomo Electric Industries	
	74.	JP-11-54847	02-26-1999	NEC Corp.	Translation of abstract
	75.	GB-2 333 521	07-28-1999	Hitachi Cable, Ltd.	
	76.	EP-0 711 853	09-08-1999	Japan Energy Corporation	
	77.	EP-0 949 731	10-13-1999	Matsushita Electronics Corp.	

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
Sheet	3	of	5	Attorney Docket Number	204552035400

	78.	JP-11-307813	11-05-1999	Hewlett-Packard Co.	Translation of abstract	
	79.	EP-0 973 207	01-19-2000	Kabushiki Kaisha Toshiba		
	80.	JP-2000-82863	03-21-2000	Sony Corp.	Translation of abstract	
	81.	JP-2000-82867	03-21-2000	Nichia Kagaku Kogyo KK		✓
	82.	JP-2000-216494	08-04-2000	Sanyo Electric Co., Ltd.	Translation of abstract	
	83.	JP-2000-327495	11-28-2000	Japan Science & Technology Corp.		✓
	84.	JP-2001-85737	03-30-2001	Sharp KK	Corresponds to cite no. 47	✓
	85.	CN-1289867	04-04-2001	Chinese Acad. Physics Inst.	Partial English Translation	
	86.	EP-1 088 914	04-04-2001	Sumitomo Electric Industries, Ltd.		
	87.	WO-01/24284	04-05-2001	Limileds Lighting, U.S., LLC		
	88.	WO-01/24921	04-12-2001	General Electric Company		
	89.	CN-1065289	05-02-2001	Chinese Acad. Physics Inst.	Translation of Abstract of Corresponding CN1149635	
	90.	JP-2001-342100	12-11-2001	Toshiba Corp.	Translation of abstract	
	91.	JP-2003-40699	02-13-2003	Ammono SP ZO O	Translation of abstract	
	92.	JP-2004-168656	06-17-2004	Ammono SP ZO O	Translation of abstract	

*EXAMINER: Initial if information considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
	93.	Dwilinski, R. et al., (May 18, 1998). "AMMONO Method of GaN and AlN Production," <i>Diamond and Related Materials</i> . 7:1348-1350		
	94.	Yamane, H. et al., (June 1998). "Polarity of GaN Single Crystals Prepared with Na Flux," <i>Japanese Journal of Applied Physics</i> . 37:3436-3440		
	95.	Pakula, K. et al., (1995). "Growth of GaN Metalorganic Chemical Vapour Deposition Layers On GaN Single Crystals," <i>ACTA PHYSICA POLONICA A</i> . 88:861-864		
	96.	Dwilinski, R. et al., (1996). "On GaN Crystallization By Ammonothermal Method," <i>ACTA PHYSICA POLONICA A</i> . 90:763-766		

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
Sheet	4	of	5	Application Number	10/537,804
				Filing Date	June 7, 2005
				First Named Inventor	Robert DWILINSKI
				Art Unit	1792
				Examiner Name	F.C. Hiteshew
				Attorney Docket Number	
				204552035400	

97.	Dwilinski, R. et al., (1997) "Exciton Photo-Luminescence of GaN Bulk Crystals Grown by the AMMONO Method," <i>Materials Science and Engineering</i> . B50:46-49	
98.	Melnik, Y. et al., (1998). "Properties Of Free-Standing GaN Bulk Crystals Grown By HVPE," <i>Mat. Res. Soc. Symp. Proc.</i> 482:269-274	
99.	Balkas, C.M. et al., (1997). "Growth Of Bulk AlN And GaN Single Crystals By Sublimation," <i>Mat. Res. Soc. Symp. Proc.</i> 449:41-46	
100.	Porowski, S., (1998). "Bulk and Homoepitaxial GaN-growth and Characterisation," <i>Journal of Crystal Growth</i> . 189/190:153-158	
101.	Aoki, M. et al., (2000). "Growth of GaN Single Crystals From a Na-Ga Melt at 750°C and 5MPa of N ₂ ," <i>Journal of Crystal Growth</i> . 218:7-12	
102.	Yamane, H. et al., (1998). "Morphology and Characterization of GaN Single Crystals Grown in a Na Flux," <i>Journal of Crystal Growth</i> . 186:8-12	
103.	Yamane, H. et al., (July 1, 1998). "Na Flux Growth of GaN Single Crystals," <i>Journal of the Japanese Association for Crystal Growth</i> . 25(4):14-18 (with partial English translation)	
104.	Waltereit, P. et al., (August 24, 2000) "Nitride Semiconductors Free Of Electrostatic Fields For Efficient White Light-Emitting Diodes," <i>Letters to Nature</i> . 406:865-868	
105.	Brandt, O. et al. (December 20, 1999) "Critical Issues For The Growth Of High-Quality (Al,Ga)N/GaN and GaN/(In,Ga)N Heterostructures on SiC(0001) by Molecular-beam Epitaxy," <i>Applied Physics Letters</i> . 75(25):4019-4021	
106.	Akasaki, I. et al. (1991). "Growth and Properties of Single Crystalline GaN Films by Hydride Vapor Phase Epitaxy," <i>Crystal Properties and Preparation</i> 32-34:154-157.	
107.	Chu, T. L. et al. (1974). "Crystal Growth and Characterization of Gallium Nitride," <i>J. Electrochem. Soc.: SOLID-STATE SCIENCE AND TECHNOLOGY</i> 121-1:159-162.	
108.	Kaschner, A. et al. (1999). "Influence of Doping on the Lattice Dynamics of Gallium Nitride," <i>MRS Internet J. Nitride Semicond. Res.</i> 4S1, G3.57; 6 pages	
109.	Kim, S. T. et al. (1998). "Preparation and Properties of Free-standing HVPE Grown GaN Substrates," <i>Journal of Crystal Growth</i> 194:37-42.	
110.	Kuroda, N. et al. (1998). "Precise Control of Pn-junction Profiles for GaN-based LD structures Using GaN Substrates with Low Dislocation Densities," <i>Journal of Crystal Growth</i> 189/190:551-555.	
111.	Motoki, K. et al. (2001). "Preparation of Large Freestanding GaN Substrates by Hydride Vapor Phase Epitaxy Using GaAs as a Starting Substrate," <i>Jpn. J. Appl. Phys.</i> 40:L140-L143	
112.	Oda, O. et al., (2000) "GaN Bulk Substrates for GaN Based LEDs and LDs" <i>Physica Status Solidi (a)</i> . 180(1):51-58	
113.	Kuramata, A. et al. (1996) "Substrates for III-V Nitride Semiconductors," <i>Oyo Buturi</i> . 65(9): 936-940; with partial English translation	
114.	Hirano, S. et al. (January 1989) "Hydrothermal Synthesis of Gallium Orthophosphate Crystals," <i>Bull. Chem. Soc. Jpn.</i> 62:275-278	
115.	Gihodo Press. (1997). "Single Crystal Growth," Chapter 1 in <u>Hydrothermal Synthesis</u> Handbook. p. 244-245; 250-255; with partial English translation	
116.	Laudise, R.A. (1991). "What is Materials Chemistry?" Chapter 27 in <u>Materials for NonLinear Optics: Chemical Perspectives</u> . American Chemical Society. pp. 410-433	
117.	Sakagami, N. et al., (1974) "Growth Kinetics and Morphology of ZnO Single Crystal Grown under Hydrothermal Conditions," <i>Journal of the Ceramic Association</i> 82:405-413; with partial English translation	
118.	Sekiguchi, T. et al., (2000) "Hydrothermal Growth of ZnO Single Crystals and their Optical Characterization," <i>Journal of Crystal Growth</i> . 214/215:72-76	
119.	Yanagisawa, K. et al. (1996) "Hydrothermal Single Growth of Calcite in Ammonium Acetate	

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
Sheet	5	of	5	Application Number	10/537,804
				Filing Date	June 7, 2005
				First Named Inventor	Robert DWILINSKI
				Art Unit	1792
				Examiner Name	F.C. Hiteshew
				Attorney Docket Number	204552035400

		Solution," <i>Journal of Crystal Growth</i> . 163:285-294	
	120.	Yanagisawa, K. et al. (2001) "Improvement of Quality of Hydrothermally Grown Calcite Single Crystals," <i>Journal of Crystal Growth</i> . 229:440-444	
	121.	Hirano, S. et al., (1991) "Growth of Gallium Orthophosphate Single Crystals in Acidic Hydrothermal Solutions," <i>Journal of Materials Science</i> . 26:2805-2808	
	122.	Mao, X. et al., (July 2000) "New Concept Technology--Pressure-Variation Liquid Phase Epitaxy," <i>SPIE Photonics Taiwan Conference Proceedings</i> . 12 pages	
	123.	Palczewska, M. et al. (October 23, 1998). "Paramagnetic Defects in GaN," <i>MRS Internet J. Nitride Semicond. Res.</i> 3(45):1-3	
	124.	Grzegory, I., (2001). "High Pressure Growth of Bulk GaN from Solutions in Gallium" <i>Journal of Physics: Condensed Matter</i> . 13(32):6875-6892	
	125.	Porowski, S. (1996). "High Pressure Growth of GaN--New Prospects for Blue Lasers," <i>Journal of Crystal Growth</i> . 166:583-589.	
	126.	Penkala, T., (1972). "Zarys Krystalografii" <i>Basics of Crystallography</i> . PWN, Warszawa: 349	✓
	127.	Ikornikova, N. IO. (1975). "Hydrothermal Synthesis of Crystals in Chloride Systems," Izd. Nauka, ed. Moscow: 124-125; 132-133	✓
	128.	Peters, D., (1990). "Ammonothermal Synthesis of Aluminium Nitride," <i>Journal of Crystal Growth</i> 104:411-418.	
	129.	Sangwal, K., ed. (1994). "Growth apparatus" Chapter 10.3 <i>In Elementary Crystal Growth</i> . Lublin: 331.	
	130.	Purdy, A., (1999). "Ammonothermal Synthesis of Cubic Gallium Nitride," <i>Chem. Mater.</i> 11:1648-1651.	
	131.	Lan, Y.C. et al., (April 14, 2000). "Syntheses and Structure of Nanocrystalline Gallium Nitride Obtained from Ammonothermal Method Using Lithium Metal as Mineralizator," <i>Materials Research Bulletin</i> 35:2325-2330.	
	132.	M. Fukuda (1998) "Optical Semiconductor Devices:" <i>Wiley Series in Microwave and Optical Engineering</i> . Chang, K., John Wiley & Sons, Inc. New York. Esp. page 7	
	133.	Sze, S.M. (1998) <i>Modern Semiconductor Device Physics</i> . John Wiley & Sons, Inc. New York. Esp. Appendix G (pp. 539-540)	
	134.	Inoue, T. et al. (2001) "Growth of Bulk GaN Single Crystals by the Pressure-Controlled Solution Growth Method," <i>Journal of Crystal Growth</i> . 229: 35-40	
	135.	Chinese Office Action mailed March 3, 2006, directed to corresponding CN Application No. 02821230.4; 8 pages	✓

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.